DOCUMENT RESUME

ED 148 871 TM 006 761

AUTHOR Jackson, Rex
TITLE Correlations of SAT Scores with High School Record.
INSTITUTION College Entrance Examination Board, New York, N.Y.
SPONS AGENCY Educational Testing Service, Princeton, N.J.
PUB DATE Jan 77
NOTE 9p.; For related documents, see TM 006 750-776 and TM 006 805; For complete report, see TM 006 516
AVAILABLE FROM College Board Publication Orders, Bos 2815, Princeton, New Jersey 08541 (Item No. 2517167, $2.00)

EDRS PRICE MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS Achievement Rating; College Bound Students; College Entrance Examinations; *Correlation; Educational Problems; Educational Trends; *Grade Point Average; High School Students; Performance Factors; Predictive Ability (Testing); *Scores; Secondary Education; Student Records; Testing Problems; *Test Validity; Trend Analysis
IDENTIFIERS *Class Rank; *Scholastic Aptitude Test; Test Score Decline

ABSTRACT

After examining the decline in average scores on the Scholastic Aptitude Test (SAT) from 1963 to the present, it has been suggested that, although SAT scores continue to contribute to effective prediction of college grades, the test may have been overtaken by changes in high school programs that have made the test increasingly less related to the learning that takes place at the secondary school level. Two sets of data are examined: (1) correlations of SAT scores with student reports of class standing for 1971-72 through 1975-76, and (2) correlations of SAT scores with measures of high school performance for groups of students attending colleges participating in the College Board Validity Study Service, for entering classes from 1964 through 1974. The correlations of SAT scores with self-reported class rank are virtually level over the five years studied. The longer-term comparisons using validity study data suggest that the median correlations of SAT verbal or mathematical scores with high school grades may have increased somewhat over the 11 years studied. Therefore, the relationship between SAT scores and high school grades appears to have increased in recent years. (Author/EVH)

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Correlations of SAT Scores with High School Record

Rex Jackson
Educational Testing Service

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TM006 761

Prepared for the Advisory Panel on
the Scholastic Aptitude Test Score Decline,
jointly sponsored by the
College Board and Educational Testing Service

January 1977

This appendix is one of 27 that have been published individually to supplement On Further Examination: Report of the Advisory Panel on the Scholastic Aptitude Test Score Decline. The report itself is available at $4 from College Board Publication Orders, Box 2815, Princeton, New Jersey 08540. Additional copies of this appendix, at $2 per copy, as well as a price list for all the appendixes, can be obtained from the same address. Payment must accompany any order not submitted on an institutional purchase order.

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Printed in the United States of America.

The principal purpose of the Scholastic Aptitude Test (SAT) is to assist in predicting performance in college. Many studies have been performed of the effectiveness of the SAT (often in conjunction with some measure of high school performance) in fulfilling this purpose.

One result of examining the declines in mean scores of SAT candidates from 1963 to the present has been the suggestion that, although SAT scores continue to contribute to effective prediction of college grades, the SAT may have been overtaken by changes in high school programs that have made the test increasingly less related to the learning that takes place at the secondary school level. From this perspective, the principal message of score declines is not that student achievement has been adversely affected, but rather that more emphasis at the high school level has been placed on skills not measured by tests like the SAT.

One set of evidence bearing on this issue consists of studies of the statistical relationship of the SAT with measures of high school performance. If it is true that schools and teachers now give more emphasis to other kinds of skills and tend to reward more frequently achievement not dependent on the kinds of skills measured by the SAT, some decline in the level of this relationship would be expected.

The introduction of the Student Descriptive Questionnaire (SDQ) in 1971-72 permits analysis of the relationship of SAT scores and self-reported rank-in-class for those SAT candidates from each high school class responding to the SDQ. These correlations (based on 10 percent samples) are given in Table 1. There are several problems with the results in Table 1. First, the class ranks used in the analyses were self-reported ranks grouped into fairly coarse intervals. If actual ranks based on school transcripts had been available, the correlations would almost certainly have been higher. In addition, class ranks depend not only on individual performance but on that of classmates. Were a refined measure of class rank available, taking into account differences among schools, undoubtedly even higher correlations would result.

The absolute levels of the coefficients reported in Table 1 should be interpreted with the considerations noted above in mind. The trend over these five years, however, is unmistakably clear. For all practical purposes, the correlations of each part of the test with self-reported rank are unchanged across the years in the table. The slight variations from year-to-year are entirely inconsequential.

Data of the kind on which the analyses presented in Table 1 are based exist only for 1971-72 to the present. The decline in mean scores, however, began in 1963-64, and evidence on the relationship of SAT scores to high school performance over this longer period is also of interest. Certain relevant data can be found in studies of the effectiveness of SAT scores and high school record for predicting college grades. Since the mid-1960s many colleges have conducted such studies through the College Board Validity Study Service (VSS). Although attention is generally centered on the relationship of SAT scores and high school record (and combinations of these) with college grades, correlations of SAT scores with measures of high school performance are also regularly computed and reported as part of such studies. Table 2 gives the tenth, twenty-fifth, fiftieth, seventy-fifth, and ninetieth percentiles of the

Table 1. Correlations of Self-Reported Rank in High School Class with SAT Scores for SAT Candidates from the 1971-72 through 1975-76 High School Classes Responding to the Student Descriptive Questionnaire

Class	SAT-V vs. rank	SAT-M vs. rank
1971-72	.493	.518
1972-73	.501	.520
1973-74	.505	.536
1974-75	.488	.529
1975-76	.498	.536

Notes:
1. Rank was coded as follows: 5 = top tenth, 4 = second tenth, 3 = second fifth, 2 = third fifth, 1 = bottom two fifths.
2. Analyses for each class were based on ten percent samples of SAT candidates responding to the SDQ.
3. For the 1971-72 class, the sample was limited to students participating as seniors.

distribution of correlation coefficients of SAT scores with measures of high school record for a number of validity studies based on students who entered VSS-participating colleges in years from 1964 through 1974.

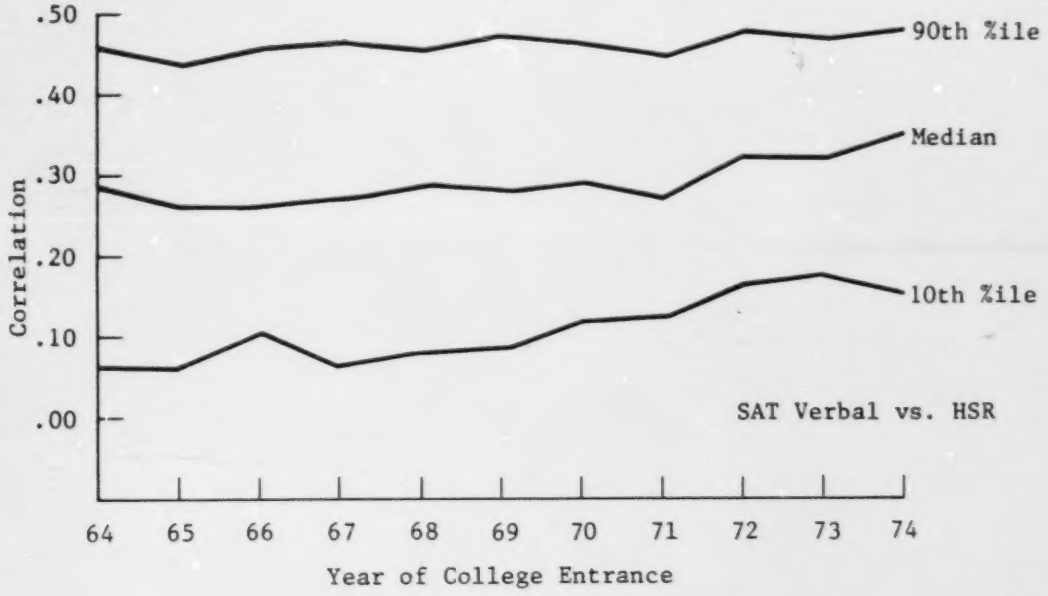
A college conducting a validity study through VSS generally requests analyses based on a number of student subgroups. The summary in Table 2 is limited to subgroups classified as "all students" or "all SAT-takers" or "liberal arts students" (if the previous categories were not used). If a given study provided results for males and females combined (for one of the above noted groups), the correlations based on this group were entered into the distributions. If only separate sex analyses were available, the separate results for males and for females were included.

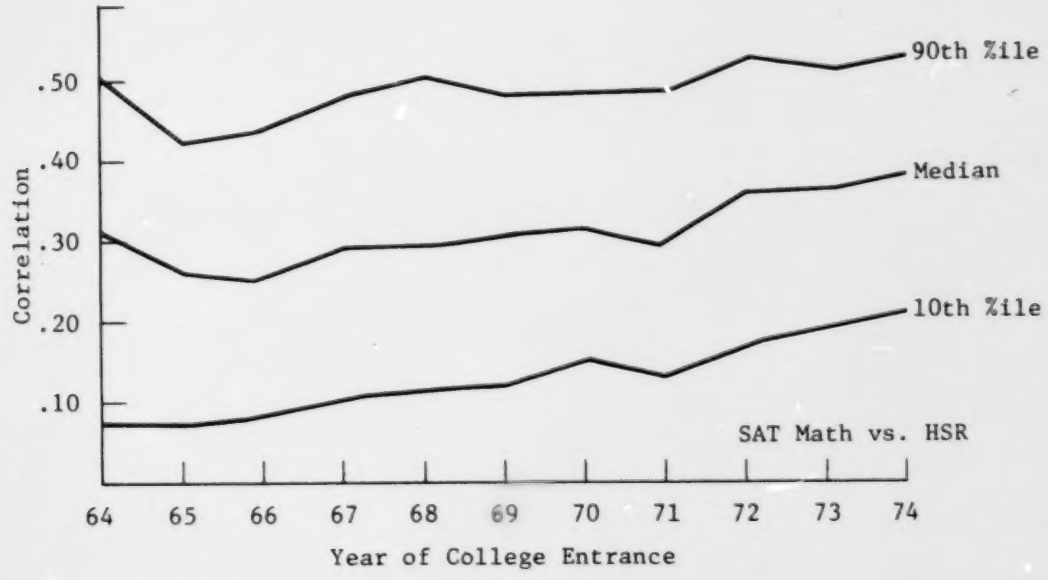
The correlations summarized in Table 2 are, in general, based on analyses using better measures of high school record than those for the analyses reported in Table 1. Generally a less coarse scale is used and, in all cases, the numbers are based on high school transcripts rather than student-reported ranks. However, the samples of students on which the correlations summarized in Table 2 are computed, are selected groups. They are (in virtually all cases) groups selected for college acceptance jointly on SAT scores and high school record. It is well known that, for such selected groups, intercorrelations of variables used in selection (and outcome variables as well) will be lower than the corresponding correlations for groups not subject to such selection. The differences between the levels of correlation for unselected groups in Table 1 and the median correlations for the select groups in Table 2 are largely attributable to these selection effects.

Table 2. Distributions of Correlations Between High School Record (Rank or GPA) and SAT Scores for Selected Groups of Students in Colleges Participating in the College Board Validity Study Service (1964-1974)

	Correlations with SAT-Verbal											
Percentile	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	Percentile
90	.460	.441	.460	.463	.456	.475	.465	.450	.482	.477	.484	90
75	.386	.371	.379	.392	.396	.383	.380	.360	.423	.410	.431	75
50	.288	.262	.264	.274	.290	.287	.293	.276	.328	.322	.354	50
25	.184	.148	.166	.165	.174	.201	.209	.208	.225	.235	.256	25
10	.066	.064	.108	.062	.081	.085	.122	.124	.165	.178	.159	10
	Correlations with SAT-Mathematical											
Percentile	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	Percentile
90	.504	.427	.440	.480	.506	.485	.483	.486	.530	.514	.532	90
75	.402	.358	.363	.393	.400	.383	.414	.386	.463	.450	.470	75
50	.318	.263	.253	.291	.297	.308	.314	.299	.360	.363	.389	50
25	.203	.167	.175	.168	.191	.217	.229	.213	.258	.280	.308	25
10	.075	.076	.086	.105	.114	.127	.151	.134	.171	.198	.214	10
Number of groups	131	146	185	200	119	140	271	99	172	136	154	

Figure 1. Selected Percentiles of the Distribution of Correlations of SAT Scores with High School Record for CEEB Validity Study Groups





Inspection of the trends in median correlations (and other percentiles) in Table 2 lends no support to the notion that either SAT verbal or SAT mathematical scores have become less related to high school grades over the period covered by the table. These trends are also graphed in Figure 1. If anything, SAT scores and high school grades appear to be more closely related in more recent years. Because the results reported in Table 2 are substantially influenced by college selectivity, it is possible that the year-to-year differences (and, in particular, the apparently higher median correlations in more recent years) are attributable to changes in the characteristics of colleges participating in VSS over the years studied. In the absence of more detailed information on this point, it would be premature to infer that SAT scores have become increasingly more related to high school performance as measured by rank-in-class or grade point average. Clearly, however, the available data do not directly support the conclusion that high school evaluations of student achievement have become progressively less related to scores on the SAT.